

27. The synthetic paper as claimed in claim 1, wherein components B, C, and D are elongated by the stretching into long particles ~~(islands)~~ or particles in Rugby ball form.

Remarks

The claims in the application are 1-20 and Claim 27 introduced by the present Amendment.

Favorable reconsideration of the application as amended is respectfully requested.

The present Amendment is being made in accordance with a telephone interview between the Examiner in charge of the above-identified application and the undersigned attorney on August 31, 1999. The courtesy extended the Examiner in arranging and conducting the telephone interview, is greatly appreciated.

The claims have been amended as presented at the interview. More particularly, Claim 3 has been amended into independent form with independent Claim 1 amended to recite that the stretching and oxidation of the stretched film generate ultrafine cracks on a surface on the film through which the component B, as permanent antistatic agent, appears. Support for the amendment to independent Claim 1 is found at page 4, lines 20-25,

page 6,line 20-page 7,line 3 and page 21, lines 11-13 of the specification. Additionally, dependent Claim 27 introduced herein find support at page 21, lines 22-24 of the specification.

A Declaration by one of the joint inventors of the above-identified application setting forth the test results presented at the interview is presently being prepared and will be expeditiously submitted to the Patent and Trademark Office. In this regard, please consider the following remarks in favor of patentability of the present invention in light of the test results presented during the telephone interview.

The present invention provides a synthetic paper having excellent permanent antistatic properties and offset printability. In accordance with the present invention, a high molecular weight permanent antistatic agent is incorporated in the surface layer of a synthetic paper which is then stretched to enhance antistatic effect. Use of such a high-molecular weight permanent antistatic agent makes it possible to prevent the disadvantages of using prior art low-molecular weight permanent anti-static agent, namely sticking of film to the molding roll due to bleeding to the surface of the film and staining the molding roll during film molding, in addition to blocking due to surface sticking after film molding, poor adhesion of ink to the film during printing, etc. Furthermore, the high-molecular weight permanent antistatic agent does not dissolve in water required for offset printing and thus does not impair the antistatic effect, unlike the low-molecular weight antistatic agent which dissolves in water, thus dissipating antistatic effect.

Concerning the applied art, Ueda et al. neither suggest that an antistatic effect-providing olefin resin composition can be oriented to form a film having enhanced antistatic effect nor disclose evaluation of offset printability of synthetic paper made from such antistatic effect-providing olefin composition. An essential feature of the present application involves orienting such an antistatic effect-providing olefin resin composition in admixture with a filler for the purpose of preparing synthetic paper. It had been found that the effect of orienting decreases surface resistivity of the resin composition from 10^{14} to $10^{11}\Omega$, even if the same high-molecular weight permanent antistatic agent is used, as shown in Comparative Examples 2 and 3 of the present application and documented in Table 2 on page 38 thereof. Thus, the surprising benefit of orienting on antistatic properties has been discovered for the very first time by the present invention.

Takashi et al. concern a synthetic paper obtained by laminating, on both sides of a base layer of biaxially oriented thermoplastic resin, a thermoplastic resin film obtained by uniaxially orienting a thermoplastic resin having an inorganic filler incorporated therein. Takashi et al disclose incorporation of a low-molecular weight antistatic agent in the paper-like (surface) layer and base layer. However, the amount of the low-molecular weight agent incorporated is only from 0.1 to 1.0 parts by weight. In the present invention, to the contrary, the amount of high-molecular weight permanent antistatic agent incorporated is as great as from 5 to 40% by weight based on the weight of the resin component (please see Claims 1 and 3). In this regard, attention is respectfully called to the attached experiments 1 and 2 which

were presented during the interview and which are presently being placed in a Declaration, as noted above. The results of this testing will now be addressed.

As described in the accompanying testing, surface resistivity and offset printability, before and after rinsing, were analyzed from duplicate experiments on the material of Takashi et al., comprising a low-molecular weight antistatic agent incorporated therein. The attached Experiment 1 shows that when the amount of the low-molecular weight antistatic agent incorporated is as small as in Takashi et al. (0.3 parts as in Example 2 of Takashi et al., at Table I (a), columns 9-10 of U.S. Patent No. 4,318,950), then resulting antistatic improvement is initially tiny, and deteriorates after rinsing, while feedability and dischargeability of paper during offset printing also deteriorates.


If the low-molecular weight antistatic agent of Takashi et al is incorporated in a large amount as in the present invention, namely 16.7 parts by weight based on the weight of the resin component (according to Example 1 of the present application), then the film becomes sticky and adheres to the molding roll during molding and thus can hardly be molded. When washed with water, the antistatic agent elutes from the surface layer of the film, drastically increasing surface resistivity, i.e., from 10^{11} to 10^{15} Ω , and destroying antistatic benefit (please see attached Table 2). It is also shown that the resulting paper exhibits deteriorated feedability and dischargeability during offset printing, (attached Experiment 2).

As pointed out above, the present invention provides a film possessing different constitution and structure from these references and thus provides effect quite different and unexpected from these references.

Accordingly, in view of the foregoing Amendment, accompanying remarks, accompanying evidence and telephone interview, it is respectfully submitted that all claims in the present application are in condition for allowance. Should the Examiner have any questions, then it is respectfully requested that the undersigned attorney be contacted at the earliest convenience to discuss the present application.

Early, favorable action is earnestly solicited.

Respectfully submitted,
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